

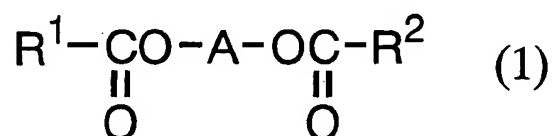
AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A lubricating oil for bearings comprising

(a) a diester represented by General Formula (1)



wherein R¹ and R² are the same or different, and each represents a C₆-C₉ linear alkyl group;

A represents a monoalkyl substituted linear alkylene group, and the total number of carbon atoms of the alkyl group and the linear alkylene group is 4 to 6; ~~or a mixture of the diester and an additional base oil, and~~

(b) at least one member selected from the group consisting of phenol-based antioxidants and amine-based antioxidants,

wherein the amount of the diester is 99.99 to 95 wt% of the total amount of component (a) and component (b).

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wherein the lubricating oil for bearings has a kinematic viscosity at 40°C of 5-10 mm²/s and a kinematic viscosity at 0°C of 15-40 mm²/s.

Claims 2- 4 (canceled).

Claim 5 (original): A lubricating oil for bearings according to Claim 1, wherein A is a 3-methyl-1,5-pentanediol residue (i.e., -CH₂CH₂-CH(CH₃)-CH₂CH₂-).

Claim 6 (canceled).

Claim 7 (original): A lubricating oil for bearings according to Claim 1, wherein the diester represented by General Formula (1) is a diester of a member selected from the group consisting of 2-methyl-1,3-propanediol, 1,3-butanediol, 2-methyl-1,4-butanediol, 1,4-pentanediol, 2-methyl-1,5-pentanediol, 3-methyl-1,5-pentanediol and 1,5-hexanediol and a member selected from C₇-C₁₀ saturated aliphatic linear monocarboxylic acids.

Claim 8 (original): A lubricating oil for bearings according to Claim 1, wherein the diester represented by General Formula (1) is a diester obtained from 3-methyl-1,5-pentanediol, and at least one member selected from the group consisting of n-heptanoic acid, n-octanoic acid, n-nonanoic acid and n-decanoic acid.

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Claim 9 (original): A lubricating oil for bearings according to Claim 1, wherein the diester represented by General Formula (1) is at least one member selected from the group consisting of 3-methyl-1,5-pentanediol di(n-octanoate) and 3-methyl-1,5-pentanediol di(n-nonanoate).

Claim 10 (original): A lubricating oil for bearings according to Claim 1, wherein the diester represented by General Formula (1) is a diester obtained from two kinds of fatty acids selected from C₇-C₁₀ saturated aliphatic linear monocarboxylic acids, and one kind of dihydric alcohol selected from the group consisting of 2-methyl-1,3-propanediol, 1,3-butanediol, 2-methyl-1,4-butanediol, 1,4-pentanediol, 2-methyl-1,5-pentanediol, 3-methyl-1,5-pentanediol and 1,5-hexanediol.

Claim 11 (original): A lubricating oil for bearings according to Claim 1, wherein the diester represented by General Formula (1) is a diester obtained from 3-methyl-1,5-pentanediol and two kinds of fatty acids selected from saturated aliphatic linear monocarboxylic acids having 7 to 10 carbon atoms.

Claim 12 (original): A lubricating oil for bearings according to Claim 1, wherein the diester represented by General Formula (1) is a diester prepared from 3-methyl-1,5-pentanediol and n-heptanoic acid and n-octanoic acid, a diester prepared from 3-methyl-1,5-pentanediol and n-heptanoic acid and n-nonanoic acid, a diester prepared

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from 3-methyl-1,5-pentanediol and n-heptanoic acid and n-decanoic acid, a diester prepared from 3-methyl-1,5-pentanediol and n-octanoic acid and n-nonanoic acid, a diester prepared from 3-methyl-1,5-pentanediol and n-octanoic acid and n-decanoic acid, or a diester prepared from 3-methyl-1,5-pentanediol and n-nonanoic acid and n-decanoic acid.

Claim 13 (original): A lubricating oil for bearings according to Claim 1, wherein the phenol-based antioxidant has 6 to 100 carbon atoms and contains no sulfur atoms in the molecule, and the amine-based antioxidant has 6 to 60 carbon atoms and contains no sulfur atoms in the molecule.

Claim 14 (original): A lubricating oil for bearings according to Claim 13, wherein the phenol-based antioxidant is at least one member selected from the group consisting of 2,6-di-t-butylphenol, 2,6-di-t-butyl-p-cresol, 4,4'-methylenebis(2,6-di-t-butylphenol), 4,4'-butylidenebis(3-methyl-6-t-butylphenol), 2,2'-methylenebis(4-ethyl-6-t-butylphenol), 2,2'-methylenebis(4-methyl-6-t-butylphenol), 4,4'-isopropylidenebisphenol, 2,4-dimethyl-6-t-butylphenol, tetrakis[methylene-3-(3,5-di-t-butyl-4-hydroxyphenyl)- propionate]methane, 1,1,3-tris(2-methyl-4-hydroxy-5-t-butylphenyl)butane,

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1,3,5-trimethyl-2,4,6-tris(3,5-di-t-butyl-4-hydroxybenzyl)- benzene,
2,2'-dihydroxy-3,3'-di(α -methylcyclohexyl)-5,5'-dimethyl-diphenylmethane,
2,2'-isobutylidenebis(4,6-dimethylphenol),
2,6-bis(2'-hydroxy-3'-t-butyl-5'-methylbenzyl)-4-methylphenol,
1,1'-bis(4-hydroxyphenyl)cyclohexane, 2,5-di-t-amylhydroquinone,
2,5-di-t-butylhydroquinone, 1,4-dihydroxyanthraquinone,
3-t-butyl-4-hydroxyanisole, 2-t-butyl-4-hydroxyanisole, 2,4-dibenzoylresorcinol,
4-t-butylcatechol, 2,6-di-t-butyl-4-ethylphenol,
2-hydroxy-4-methoxybenzophenone, 2,4-dihydroxybenzophenone,
2,2'-dihydroxy-4-methoxybenzophenone, 2,4,5-trihydroxybenzophenone,
 α -tocopherol, bis[2-(2-hydroxy-5-methyl-3-t-butylbenzyl)-4-methyl-6-t-butyl-phenyl]terephthalate, triethylene glycol-bis[3-(3-t-butyl-5-methyl-4-hydroxyphenyl)- propionate),
1,6-hexanediol-bis[3-(3,5-di-t-butyl-4-hydroxyphenyl)propionate]; and

the amine-based antioxidant is at least one member selected from the group consisting of diphenylamine, mono(C₄-C₉ alkyl)-substituted diphenylamines, p,p'-di(C₄-C₉ alkylphenyl)amines, and di(mono C₄-C₉ alkylphenyl)amines wherein the alkyl group on one benzene ring is different from the alkyl group on the other benzene ring, di(di-C₄-C₉ alkylphenyl)amines wherein at least one of the four alkyl groups on the two benzene rings is different from the other alkyl group(s), N-phenyl-1-naphthylamine, N-phenyl-2-naphthylamine, 4-octylphenyl-1-naphthylamine,

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4-octylphenyl-2-naphthylamine, p-phenylenediamine,

N-phenyl-N'-isopropyl-p-phenylenediamine, and

N-phenyl-N'-(1,3-dimethylbutyl)-p-phenylenediamine.

Claim 15 (original): A lubricating oil for bearings according to Claim 13, wherein component (b) is a combination of at least one member selected from the group consisting of 2,6-di-t-butyl-p-cresol, 4,4'-methylenebis(2,6-di-t-butylphenol) and 2,6-di-t-butyl-4-ethylphenol with at least one member selected from the group consisting of p,p'-dioctyl (including linear and branched) diphenylamines, p,p'-dinonyl (including linear and branched) diphenylamines, and N-phenyl-1-naphthylamine.

Claim 16 (original): A lubricating oil for bearings according to Claim 1, which further comprises (c) at least one member selected from the group consisting of phosphorus-based compounds and aliphatic linear monocarboxylic acids.

Claim 17 (original): A lubricating oil for bearings according to Claim 16, wherein the phosphorus-based compound is at least one member selected from the group consisting of phosphoric acid triesters, phosphorous acid triesters, acid phosphates and acid phosphites, each having 12 to 70 carbon atoms and containing no sulfur atoms in the molecules, and the aliphatic linear monocarboxylic acid has 12 to 22 carbon atoms.

Claim 18 (previously presented): A lubricating oil for bearings according to Claim 16, wherein the phosphorus-based compound is at least one member selected from the group consisting of

c1) tri(linear or branched C₄-C₁₈ alkyl) phosphates,

c2) tri(C₄-C₈ cycloalkyl) phosphates,

c3) tri(unsubstituted or substituted phenyl) phosphates (the substituted phenyl group is substituted with 1 to 3 substituents selected from the group consisting of C₁-C₁₀ alkyl, halogen atom (in particular, bromine) and hydroxy group. One or two of the three phenyl groups may be unsubstituted and the rest may be substituted.),

c4) tri(linear or branched C₄-C₁₈ alkyl) phosphites,

c5) tri(C₄-C₈ cycloalkyl) phosphites,

c6) tri(unsubstituted or substituted phenyl) phosphites (the substituted phenyl group is substituted with one to three substituents selected from the group consisting of C₁-C₁₀ alkyl, halogen atom (in particular, bromine) and hydroxy group. One or two of the three phenyl groups may be unsubstituted and the rest may be substituted.),

c7) di(linear or branched C₄-C₁₈ alkyl) phosphates,

c8) di(C₄-C₈ cycloalkyl) phosphates,

c9) di(unsubstituted or substituted phenyl) phosphates (the substituted phenyl group is substituted with one to three substituents selected from the group consisting of C₁-C₁₀ alkyl, halogen atom (in particular, bromine) and hydroxy group. One of the two phenyl groups may be unsubstituted and the other may be substituted.),

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c10) di(linear or branched C₄-C₁₈ alkyl) phosphites,

c11) di(C₄-C₈ cycloalkyl) phosphites, and

c12) di(unsubstituted or substituted phenyl) phosphites (the substituted phenyl group is substituted with 1 to 3 substituents selected from the group consisting of C₁-C₁₀ alkyl, halogen atom (in particular, bromine) and hydroxy group. One of the two phenyl groups may be unsubstituted and the other may be substituted.), and

the aliphatic linear monocarboxylic acid has 14 to 18 carbon atoms.

Claim 19 (original): A lubricating oil for bearings according to Claim 16, wherein said at least one member selected from the group consisting of phosphorus-based compounds and aliphatic linear monocarboxylic acids is a combination of at least one member selected from the group consisting of tri(n-octyl) phosphate, triphenyl phosphate and tricresyl phosphate with at least one member selected from the group consisting of n-tetradecanoic acid, n-hexadecanoic acid and n-octadecanoic acid.

Claim 20 (original): A lubricating oil for bearings according to Claim 16, which further comprises (d) at least one member selected from the group consisting of benzotriazole-based compounds and gallic acid-based compounds.

Claim 21 (original): A lubricating oil for bearings according to Claim 20, wherein the benzotriazole-based compound has 6 to 60 carbon atoms and contains no sulfur atoms

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in the molecule, and the gallic acid-based compound has 7 to 30 carbon atoms.

Claim 22 (original): A lubricating oil for bearings according to Claim 20, wherein the benzotriazole-based compound is at least one member selected from the group consisting of benzotriazole, 5-methyl-1H-benzotriazole,

1-dioctylaminomethylbenzotriazole, 1-dioctylaminomethyl-5-methylbenzotriazole,

2-(5'-methyl-2'-hydroxyphenyl)benzotriazole, 2-[2'-hydroxy-3',5'-bis(α ,

α -dimethylbenzyl)phenyl]-2H-benzotriazole,

2-(3',5'-di-t-butyl-2'-hydroxyphenyl)benzotriazole,

2-(3'-t-butyl-5'-methyl-2'-hydroxyphenyl)-5-chlorobenzotriazole,

2-(3',5'-di-t-butyl-2'-hydroxyphenyl)-5-chlorobenzotriazole,

2-(3',5'-di-t-amyl-2'-hydroxyphenyl)benzotriazole,

2-(5'-t-butyl-2'-hydroxyphenyl)benzotriazole,

2-(2'-hydroxy-5'-methylphenyl)benzotriazole,

2-(2'-hydroxy-5'-t-octylphenyl)benzotriazole, and

2-[2'-hydroxy-3'-(3'',4''-5'',6''tetrahydrophthalidomethyl)-5'-methylphenyl]benzotriazole; and

the gallic acid-based compound is at least one member selected from the group consisting of gallic acid, linear or branched C₁-C₂₂ alkyl esters of gallic acid and C₄-C₈ cycloalkyl esters of gallic acid.

Claim 23 (previously presented): A lubricating oil for bearings according to Claim

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20, wherein the benzotriazole-based compound is selected from the group consisting of benzotriazole and 5-methyl-1H-benzotriazole, and the gallic acid-based compound is selected from the group consisting of (n-propyl) gallate, (n-octyl) gallate and (n-dodecyl) gallate.

Claim 24 (canceled).

Claim 25 (new): A lubricating oil for bearings according to Claim 1, which further comprises an additional base oil.

Claim 26 (new): A lubricating oil for bearings according to Claim 16, which further comprises an additional base oil.

Claim 27 (new): A lubricating oil for bearings according to Claim 20, which further comprises an additional base oil.